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1
53
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vol.56
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CONTENTS

(The figures after entries refer to page numbers)

Abstractors	vi	Journals Abstracted Completely xii
Errata	viii	Supplement to List of Journals xiii
Note on the Universal Decimal Classification System	ix	Author Index 1129
Transliteration of Russian, Serbian and Bulgarian for Bibliographical Purposes	x	Subject Index 1268
		Collected List of Subject Index Headings 1411

51	MATHEMATICS	17, 85, 181, 285, 385, 501, 597, 683, 751, 821, 949, 1049
52	ASTRONOMY. ASTROPHYSICS. GEODESY	17, 85, 181, 285, 386, 502, 597, 683, 751, 822, 950, 1050
53	PHYSICS	19, 86, 184, 288, 389, 508, 601, 685, 753, 829, 954, 1052
530.1	Fundamentals	19, 87, 184, 288, 389, 509, 601, 685, 753, 829, 954, 1053
531	General mechanics. Mechanics of solids	22, 189, 295, 394, 513, 605, 756, 835, 962, 1057
531.7	Mechanical measurements	22, 92, 189, 296, 395, 513, 606, 687, 756, 836, 962, 1057
532	Mechanics of fluids	23, 92, 189, 296, 396, 514, 606, 688, 756, 837, 962, 1058
532.6	Capillarity	23, 94, 190, 516, 689, 759, 838, 963, 1059
532.7	Molecular theory of liquids	23, 95, 191, 298, 398, 517, 608, 689, 760, 839, 964, 1059
533	Mechanics of gases	24, 95, 192, 300, 400, 518, 608, 689, 760, 840, 965, 1060
533.7	Molecular theory of gases	25, 96, 194, 300, 402, 519, 610, 690, 761, 842, 966, 1061
534	Vibrations. Acoustics	26, 96, 194, 301, 403, 519, 610, 690, 761, 843, 967, 1061
535	Optics. Radiation. Spectra	28, 103, 198, 308, 410, 523, 613, 695, 766, 846, 969, 1064
536	Heat	37, 111, 211, 320, 429, 532, 622, 703, 772, 860, 978, 1070
536.7/.8	Thermodynamics	39, 114, 213, 323, 534, 624, 704, 775, 866, 981, 1073
537	Electricity	40, 115, 214, 324, 436, 535, 625, 705, 777, 867, 981, 1074
537.1	Theory. Electrons	40, 214, 324, 535, 625, 705, 867, 981
537.2	Electrostatics. Dielectrics	40, 115, 215, 324, 436, 535, 625, 705, 777, 867, 982, 1074
537.3	Electric conduction. Currents	41, 116, 218, 325, 438, 536, 626, 706, 777, 870, 983, 1075
537.52	Electric discharges	44, 120, 222, 329, 441, 540, 629, 709, 781, 876, 987, 1078
537.531	X-rays	46, 122, 223, 330, 444, 541, 630, 710, 782, 878, 989, 1080
537.533/.534	Cathode rays. Positive rays	46, 122, 224, 330, 444, 542, 630, 712, 783, 878, 989, 1080
537.54	Discharge tubes. Counters	48, 127, 227, 333, 447, 544, 635, 714, 787, 883, 992, 1082
537.56/.58	Ionization. Thermionics	50, 129, 228, 334, 449, 547, 636, 716, 788, 886, 993 1084
537.591	Cosmic rays	51, 130, 229, 335, 451, 547, 638, 716, 789, 888, 994, 1085
538	Magnetism	53, 131, 232, 337, 453, 550, 639, 718, 790, 891, 999, 1089
538.3/.5	Electromagnetism. Electrodynamics	55, 135, 236, 339, 456, 553, 641, 720, 792, 896, 1000, 1099
538.56	Electromagnetic waves and oscillators	55, 136, 236, 340, 456, 553, 641, 720, 793, 896, 1001, 1099
538.6	Magnetic effects	57, 136, 239, 343, 460, 555, 644, 722, 794, 898, 1002, 1101
539.1	Molecular and atomic structure	57, 137, 240, 343, 555, 644, 724, 794, 898, 1002, 1102
539.11	Theory of solid state	57, 137, 240, 343, 460, 555, 644, 724, 794, 898, 1002, 1102
539.13	Molecular structure	58, 137, 241, 344, 461, 556, 644, 724, 794, 898, 1003, 1103
539.15	Atomic structure. Nucleus. Isotopes	61, 141, 245, 346, 466, 560, 646, 729, 795, 904, 1005, 1105
539.16	Radioactivity, α-, β- and γ-rays	63, 144, 248, 350, 469, 560, 648, 731, 797, 909, 1008, 1107
539.17	Nuclear reactions	67, 150, 254, 356, 473, 567, 656, 734, 800, 915, 1014, 1109
539.18	Atom and molecule beams. Mesons. Neutrons	70, 156, 257, 362, 477, 572, 661, 736, 802, 920, 1019, 1112
539.2	Structure of solids	72, 158, 260, 364, 479, 574, 664, 737, 803, 924, 1021, 1114
539.3/.8	Elasticity. Strength. Rheology	73, 161, 263, 366, 482, 576, 666, 738, 805, 926, 1023, 1115
541	PHYSICAL CHEMISTRY	74, 163, 266, 368, 486, 579, 667, 739, 808, 929, 1026, 1116
541.11/.12	Phase equilibrium. Chemical reactions	74, 163, 266, 368, 486, 579, 667, 739, 808, 929, 1026, 1116
541.13	Electrochemistry	76, 165, 268, 369, 488, 581, 669, 740, 809, 930, 1027, 1117
541.14/.15	Photochemistry. Radiation chemistry	76, 166, 269, 370, 488, 581, 670, 741, 810, 932, 1028, 1117
541.18	Dispersion. Colloids. Adsorption	77, 166, 270, 370, 488, 582, 671, 811, 933, 1029, 1118
541.2/.6	Chemical structure	77, 167, 271, 371, 489, 583, 672, 742, 811, 933, 1030, 1119
542.1/.7	Laboratory apparatus	77, 167, 271, 490, 1031, 1119
542.9	Chemical processes	78, 167, 372, 583, 672, 742, 934, 1119
543/545	Chemical analysis	78, 167, 271, 372, 491, 584, 672, 934, 1031, 1120
548	CRYSTALLOGRAPHY	78, 168, 272, 372, 491, 584, 673, 743, 812, 935, 1031, 1120
548.7	Molecular and X-ray crystallography	79, 169, 274, 373, 491, 585, 674, 743, 812, 937, 1032, 1121
55	GEOPHYSICS	81, 172, 278, 377, 496, 587, 676, 745, 815, 944, 1041, 1125
551.5	Atmosphere. Meteorology	81, 173, 278, 377, 498, 588, 678, 746, 815, 945, 1041, 1125
57/59	BIOLOGY	83, 176, 280, 380, 592, 681, 748, 816, 1043, 1127
61	Medical science. Human physiology	83, 176, 280, 381, 592, 681, 748, 816, 1044, 1127
66/67	TECHNICAL MATERIALS	84, 179, 282, 500, 595, 682, 818, 1045, 1128
77	PHOTOGRAPHY	84, 180, 282, 382, 500, 595, 682, 750, 818, 948, 1046, 1128

49804

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The initial "A" is used to indicate an abstract prepared from the summary published with the article.

ERRATA, 1951

Abstr. 6811, line 2: *for* 21–3 *read* 62–4.

Author Index, p. 1304, column 1: *for* WESSEL, S., *read* WESSEL, W.

ERRATA, 1952

Abstr. 1020, line 4: *for* higher *read* lower.

Abstr. 1807, penultimate line: *for j read* γ.
last line: *add at end* if H is measured in amp/cm.

Abstr. 3257, line 2: *for* A. LAQUIÈRE *read* A. BLAQUIÈRE.

Abstr. 3600, line 3: *for* KOSINA, T. I., *read* KOSTINA, T. I.

Abstr. 5830, line 3: *for* V. M. KALMAN *read* V. M. KELMAN.

Abstr. 6525, last line: *add after* (1952): "in which replace *higher* in line 4 by *lower*."

Abstr. 8399, line 4: *for* **24** *read* **25.**

Abstr. 8888, line 2: for *J. chem. Phys.* read *J. Chim. phys.*

Abstr. 8960, line 2: *for* G. H. RAPOPORT *read* G. N. RAPOPORT.

Abstr. 9076, line 2: *for* R. H. LOVEBERG *read* R. H. LOVBERG.

Abstr. 9241, line 3: *for* S. N. PLASS *read* G. N. PLASS.

Author Index, p. 1224, line 15, entry under MAYNEORD, W. V., TURNER, R. C., NEWBERY, S. P., and HODT, H. J.: *for* 1382 *read* 1372.

Subject Index, p. 1299, column 2: **Chemical effects of radiations, ionizing radiations.** *The second entry should be indented under* γ-rays.

Subject Index, p. 1336, column 1, line 13 from bottom: *the entry* metallic, thermal expansion 8115 *should be listed under* **Gadolinium,** *not* **Gallium.**

Subject Index, p. 1354, column 1: second entry should be under **Magnesium oxide.**

Subject Index, p. 1374, column 1: **Photographic light** sources, second entry: for 769 read 709.

Subject Index, p. 1405, column 1, last line: *for* Ga *read* Gd.

ERRATA, 1953

p. 5 [List of Journals] lines 35 and 48: for *Electric Journal* read *Electrical Journal.*

p. 12 [List of Journals] line 31: for *Receuil* read *Recueil.*

Abstr. 1864, line 7: *for* made *read* mode.

Abstr. 2454, line 2: *for* VAN ROOSBROEK *read* VAN ROESBROECK.

Abstr. 2537, line 4: *for* 318 *read* 518.

Abstr. 3007, line 7: *for* KM_2O_4 *read* $KMnO_4$.

Abstr. 3543, line 1: *for* **half-live** *read* **half-life.**

Abstr. 3775, line 3: *for* **44** *read* **55.**

Abstr. 3854, line 12: *for* provided that a *read* and that no.

Abstr. 3915, line 5: *for* Everard *read* Euverard;
for (1944) *read* (1949).

Abstr. 5454, line 1: *for* N. V. NOVOSIL'TSEV *read* N. S. NOVOSIL'TSEV.

Abstr. 6089, line 2: *for* K. SCHMEISTER *read* K. SCHMEISER.

Abstr. 6299, line 14: *for* absorption *read* adsorption.

Abstr. 6401, line 3: *for* J. H. OORT *read* J. OORT.

Abstr. 6455, line 5: *for* ϕ_P *read* ϕ_ρ.

Abstr. 6461, line 6: *insert* all *before* gauge transformations.

Abstr. 7186, line 2: *for* C. O. MEUHLHAUSE *read* C. O. MUEHLHAUSE.

Abstr. 7355, line 16: *for* 10^{-2} and 10^{-2} *read* 10^{-6} and 10^{-2}.

Abstr. 7426, line 11: *for* boron *read* boson.

Abstr. 8652, line 6: *for* 16 kV *read* 16 hr.

Abstr. 8654, line 9: *for* lag *read* log.

CORRECTIONS TO ARTICLES

Corrections have been published, as shown below, to the articles whose Abstract numbers are given. Unless otherwise stated, the volume and page given refer to the journal named in the abstract, i.e. the journal in which the original article was published.

Abstr. 4587 (1951): **21,** 761 (*April*, 1953).
Abstr. 1303 (1952): **134,** *No.* 4, 425 (1953).
Abstr. 1555 (1952): **18,** 269 (*Jan.*, 1953).
Abstr. 2456 (1952): **23,** 1412 (*Dec.*, 1952).
Abstr. 3536 (1952): **20,** 1824 (*Nov.*, 1952).
Abstr. 4178 (1952): **23,** 1412 (*Dec.*, 1952).
Abstr. 5123 (1952): *Austral. J. Phys.*, **6,** 124 (*March*, 1953).
Abstr. 5274 (1952): **7a,** 763 (*Nov.*, 1952).
Abstr. 5761 (1952): **23,** 1413 (*Dec.*, 1952).
Abstr. 5906 (1952): **24,** 178 (*July*, 1952).
Abstr. 5917 (1952): **23,** 1413 (*Dec.*, 1952).
Abstr. 6312 (1952): **20,** 1980 (*Dec.*, 1952).
Abstr. 6502 (1952): **12,** *No.* 1–3, 160 (1953).
Abstr. 6994 (1952): *Austral. J. Phys.*, **6,** 125 (*March*, 1953).
Abstr. 7222 (1952): **21,** 1312 (*July*, 1953).
Abstr. 8104 (1952): **39,** *No.* 23, 546 (1952).
Abstr. 8250 (1952): **9,** *No.* 11, 281 (1952).
Abstr. 9042 (1952): **7,** 603 (*May–June*, 1952).
Abstr. 9184 (1952): **3,** *No.* 5, 981–2 (1952).
Abstr. 10 (1953): **90,** 1131 (*June* 15, 1953).
Abstr. 204 (1953): **24,** 369 (*March*, 1953).
Abstr. 362 (1953): **21,** 381 (*Feb.*, 1953).
Abstr. 379 (1953): **21,** 189 (*Jan.*, 1953).
Abstr. 683 (1953): **25,** 799 (*July*, 1953).
Abstr. 709 (1953): **25,** 576 (*May*, 1953).
Abstr. 713 (1953): **25,** 576 (*May*, 1953).
Abstr. 751 (1953): **21,** 571 (*March*, 1953).
Abstr. 952 (1953): **90,** 1131 (*June* 15, 1953).
Abstr. 1002 (1953): **21,** 572 (*March*, 1953).
Abstr. 1042 (1953): **90,** 1131 (*June* 15, 1953).
Abstr. 1225 (1953): **21,** 1116 (*June*, 1953).
Abstr. 1244 (1953): **41,** 218 (*Feb.*, 1953).
Abstr. 1486 (1953): **43,** 409 (*May*, 1953).
Abstr. 1545 (1953): **21,** 761 (*April*, 1953).
Abstr. 1560 (1953): **43,** 409 (*May*, 1953).
Abstr. 1598 (1953): **21,** 762 (*April*, 1953).
Abstr. 1920 (1953): **90,** 1131 (*June* 15, 1953).
Abstr. 1987 (1953): **8,** 137 (*Jan.–Feb.*, 1953).
Abstr. 2159 (1953): **117,** 471 (*May*, 1953).
Abstr. 2192 (1953): **90,** 1131 (*June* 15, 1953).
Abstr. 2266 (1953): **25,** 799 (*July*, 1953).
Abstr. 2270 (1953): **25,** 799 (*July*, 1953).
Abstr. 2310 (1953): **12,** *No.* 7–8, 423 (1953).
Abstr. 3111 (1953): **21,** 1312 (*July*, 1953).
Abstr. 3341 (1953): **66,** 815 (*Sept.*, 1953).
Abstr. 3399 (1953): **24,** 817 (*June*, 1953).
Abstr. 3929 (1953): **8,** 434 (*May–June*, 1953).
Abstr. 4059 (1953): **90,** 1131 (*June* 15, 1953).
Abstr. 5513 (1953): *No.* 44, 14 (*July*, 1953).
Abstr. 5646 (1953): *No.* 44, 14 (*July*, 1953).
Abstr. 6050 (1953): **8,** 569 (*July–Aug.*, 1953).
Abstr. 6349 (1953): **10,** *No.* 9, 460 (1953).
Abstr. 6429 (1953): **90,** 1131 (*June* 15, 1953).
Abstr. 7018 (1953): *No.* 44, 14 (*July*, 1953).
Abstr. 7022 (1953): *No.* 44, 14 (*July*, 1953).
Abstr. 7426 (1953): **10,** 356 (*March*, 1953).
Abstr. 7503 (1953): **12,** *No.* 7–8, 424 (1953).

NOTE ON THE UNIVERSAL DECIMAL CLASSIFICATION SYSTEM

The abstracts in this volume are classified by subject according to the Universal Decimal Classification, and arranged in order of their U.D.C. numbers, which are printed at the head of the Abstract on the right.

The complete tables of the 4th International Edition of the U.D.C. are in process of publication by the British Standards Institution, 2 Park Street, London, W.1.

Abridged tables of certain sections were published with the January (1949) issues of *Science Abstracts*, by permission of the British Standards Institution, and a few reprints of these tables are available from The Institution of Electrical Engineers, Savoy Place, London, W.C.2.

The U.D.C. numbers of the main sections of *Science Abstracts* are given in the Contents List each month.

Symbols used in the U.D.C.

: links numbers denoting subjects, dealt with in relation to each other in the article.

/ indicates extension over several numbers (e.g. 535.41/.43 represents 535.41 to 535.43 inclusive).

( ) signifies Place (e.g. (485), in Sweden).

– is used to attach special auxiliary subdivisions applicable to certain sections (e.g. –31, ultraviolet; hence 535.34–32 ultraviolet absorption).

0 indicates other auxiliary subdivisions applicable throughout Sections 53/59 (e.g. .08, measurement, hence 536.63.08, measurement of specific heat).

Numbers are normally divided into groups of three digits by stops for convenience.

THE TRANSLITERATION OF RUSSIAN, SERBIAN AND BULGARIAN FOR BIBLIOGRAPHICAL PURPOSES

The table opposite is reproduced, by permission, from a pamphlet with the above title published by The Royal Society, Burlington House, London, W.1 (February, 1953, price 1s. 0d.). It represents the system now in use in *Science Abstracts* for the transliteration of the names of journals and the names of the authors of articles abstracted.

The system was originally drawn up by Mr. H. S. Bushell, M.A., for the Abstracting Services Consultative Committee, which, after reference to other interested bodies, submitted it to the Information Services Committee of The Royal Society. A very substantial measure of accord having been reached with the British Academy, The Royal Society adopted the system for its own publications, at the same time inviting other scientific organizations to do likewise.

The system is intended only for bibliographical purposes in English scientific and related publications, and does not claim any "universal" or international character. It is fully discussed in the pamphlet mentioned above, but the following extracts will serve to indicate the principles on which it has been drawn up:

Requirements of a Transliteration System for Bibliographical Use

There are at present more than twenty systems, each having a small band of adherents and a greater band of opponents, but each has ambiguities for bibliographical use, and some are intended for other purposes, so that (to varying degrees) they designedly sacrifice unambiguous spelling to pronunciation or to simplicity. Thus, though some of them are adequate for other purposes, existing systems do not appear to satisfy the criteria by which a system for bibliographical use should be judged. These criteria, in order of importance, would appear to be:—

(1) A reader presented with an author's name (or any other word) in "English" letters must be able to differentiate it from any other name in which some of the Cyrillic letters are not the same. The demonstration that this differentiation is, or is not, possible with a given system is "back-transliteration," which can be done without ambiguity if each Cyrillic letter is represented by a different English letter (or group of letters), but not if a single English letter is used to represent two (or more) different Cyrillic letters, since the reader cannot know which of the two it represents. Moreover, if the reader of a transliterated title encounters an unknown word, he cannot look it up in a dictionary unless he can transliterate it back into Cyrillic letters.

(2) It should be possible to arrange transliterated authors' names in an alphabetical index in such a way that they are readily found.

(3) The system should not require diacritical marks that are not available to English printers.

(4) The transliteration should give some indication of the pronunciation of words.

Of these desiderata, the fourth is much the least important for bibliographical purposes and should always yield to the first if it is impossible to satisfy both.

Existing Transliteration Systems

The systems of the type known as "International" or "Scientific" have abandoned the use of the English alphabet, because it has only 26 letters, and adopted instead various amplifications of the Croat alphabet, which also uses letters derived from Latin but has more of them. The Croat alphabet itself has 30 letters; it comprises only 22 Latin letters but makes the number up to 30 by the use of diacritics and digraphs. Thus in it c, ć, č, d, đ, dž, ž and z are eight distinct letters. The following example is cited from one of the best known systems. By it the name Chekhov ("English" transliteration) appears as Čehov. For English readers Čehov does not satisfy criteron 4, since it does not indicate pronunciation. It does not satisfy 3, since it requires a diacritical mark not readily available. It does not satisfy 2, since a searcher would not know whether Čehov would be indexed as Ce or Che, or (as it presumably should be) not under C at all but somewhere else, since Č is an entirely distinct letter in the Croat alphabet. As regards the first criterion (ambiguities), the system uses the letter i (unmodified) for two different Cyrillic letters in the same alphabet (Russian), and uses the paired letters ja, ju, nj, lj, dj, and dž, though it also uses each one of the members of these pairs (a, d, j, l, n, u and ž) for other letters.

In the "English" systems, as opposed to the international ones, the English alphabet is applied, so far as possible, "in the normal manner of its native use." This means that, of the difficulties cited above, the second (indexing) disappears, and the third and fourth (diacritical marks and pronunciation) are met much better than by any international system. It also means that the transliteration serves English readers without requiring them to learn the letters and usage of an alphabet that they do not already know. The difficulty of avoiding ambiguities is, however, enhanced by the fact that the English alphabet has only 26 letters. Practically all systems increase this number by the use of two or three simple diacritical marks, but, despite this, ambiguities do not appear to be avoided by any existing system. Thus, two of the rather more widely adopted of the systems both use e for three letters and f for two, while one uses i for two and the other for three, and both contain additional ambiguities that result from the use of pairs of letters and of all members of these pairs for other letters.

The Need for a New System

The Information Services Committee of The Royal Society and the Abstracting Services Consultative Committee have devoted careful consideration to the problem of the confusion that has arisen from the present use of so many different systems, none of which is widely adopted or really satisfactory for scientific purposes, and have concluded that there is a definite need for a change and that they should therefore recommend one. They consider that nothing would be gained by waiting for the completion of work on international systems, because, for the reasons given above, the satisfactory application of any international system would be impossible. As confusion cannot be avoided unless all organizations adopt a single system, and no existing system is entirely satisfactory, the two Committees wish to recommend the adoption of the new system.

THE RECOMMENDED SYSTEM – ENGLISH-CYRILLIC

English Letters	Languages	Cyrillic Letters	English Letters	Languages	Cyrillic Letters
a	R S B	А а	p	R S B	П п
b	R S B	Б б	r	R S B	Р р
ch	R S B	Ч ч	s	R S B	С с
d	R S B	Д д	sh	R S B	Ш ш
e	R S B	Е е	shch	R	Щ щ
ë	R	Ё ё	sht	B	Щ щ
é	R	Э э	t	R S B	Т т
ê	R B	Ѣ ѣ	t'	R B	Ть ть
f	R S B	Ф ф	t'	S	Ћ ћ
g	R S B	Г г	th	R	Ѳ ѳ
i	R S B	И и	ts	R S B	Ц ц
ī	R	І і	t-s	R S B	ТС тс
ĭ	R B	Й й	u	R S B	У у
j	S	Ј ј	ŭ	B	Ъ ъ
j'	S	Ђ ђ	ū	B	Ѫ ѫ
k	R S B	К к	v	R S B	В в
kh	R S B	Х х	y	S	Ј ј
l	R S B	Л л	ȳ	R	Ы ы
l'	R B	Љ љ	y̆	R	Ѵ ѵ
l'	S	Љ љ	ya	R B	Я я
m	R S B	М м	yu	R B	Ю ю
n	R S B	Н н	z	R S B	З з
n'	R B	Њ њ	zh	R S B	Ж ж
n'	S	Њ њ	‘	R	Ъ ъ
o	R S B	О о	’	R B	Ь ь

Notes:

The use of l', n' and t' in Russian and Bulgarian (where they are not transliterations of a single letter, but merely l, n or t followed by the soft sign) is included to emphasize the fact that they are used for single letters only in Serbian.

Shch and sht invariably represent the letter Щ in Russian and Bulgarian respectively, since the pairs of letters (ШЧ in Russian and ШТ in Bulgarian) seem never to occur consecutively in the respective languages.

JOURNALS ABSTRACTED COMPLETELY

The following list gives the names of those journals whose contents, being entirely original contributions in Physics or Electrical Engineering, are currently being abstracted completely in one or other section of *Science Abstracts* (transient and non-scientific items excepted). This list supersedes lists published earlier.

Acta Physica Austriaca
Acta Physica Hungarica
Acta Physica Polonica
Acustica
Advances in Physics
Akustische Beihefte
Alta Frequenza
Annalen der Physik
Annales de Physique
Annales de Radioélectricité
Annales de Télécommunication
Archiv der elektrischen Übertragung
Archiv für Elektrotechnik
Arkiv för Fysik
Australian Journal of Physics
Bell System Technical Journal
British Journal of Applied Physics
Cahiers de Physique
Canadian Journal of Physics
Chinese Journal of Physics*
Electronics
Elektrichestvo
Frequenz
Helvetica Physica Acta
Indian Journal of Physics
Journal of the Acoustical Society of America
Journal of Applied Physics
Journal of Chemical Physics
Journal of the Optical Society of America
Journal of the Physical Society of Japan
Journal de Physique et le Radium
Journal of Scientific Instruments
Nuovo Cimento
Optik
Philosophical Magazine
Physica
Physical Review
Proceedings of the Institute of Radio Engineers
Proceedings of the Institution of Electrical Engineers
Proceedings of the Physical Society
Progress of Theoretical Physics
Reports of the Physical Society on Progress in Physics
Review of Scientific Instruments
Reviews of Modern Physics
Revue d'Optique
Transactions of the American Institute of Electrical Engineers
Wireless Engineer
Zeitschrift für angewandte Physik
Zeitschrift für Naturforschung (a)
Zeitschrift für Physik
Zhurnal Eksperimentalnoĭ i Teoreticheskoĭ Fiziki*

* No 1953 issues of these journals were received

An abstract is only published in *Science Abstracts* when an article or book is believed to be generally available. No abstracts are published of dissertations, reports, or memoranda with limited circulation, unless copies have been deposited with several public libraries; nor of papers presented orally at meetings, unless précis of substantial length are published in the normal way.

Thus the appearance of an abstract in *Science Abstracts* may generally be taken as an indication that the original is publicly available, and information for its identification and acquisition, if not given in the abstract, will be found elsewhere in *Science Abstracts*.

If no indication of language is given in the abstract, the article may be assumed to be in English. This does not necessarily hold, however, for abstracts reprinted from elsewhere, as indicated at the foot of the abstract.

SUPPLEMENT TO LIST OF JOURNALS

The list on pp. 1–16 was published in January (1953) and the list below gives the additions and alterations made nce that date. The addresses given are believed to be correct at the time of going to press (December, 1953), but o responsibility can be accepted for errors.

A.T.E. J.	*A.T.E. Journal.* Formerly *Strowger Journal* [*Strowger J.*]. Address unchanged.
Acta chem. Scand.	*Acta Chemica Scandinavica.* Ejnar Munksgaard, Nørregade 6, Copenhagen.
Aeronaut. Res. Coun. (Min. of Supply) Rep. Mem.	*Aeronautical Research Council (Ministry of Supply) Reports and Memoranda.* Her Majesty's Stationery Office, Kingsway, London, W.C.2.
Analyst	*Analyst.* [Abstracted by *Nuclear Science Abstracts.*]
Ann. Meteorol.	*Annalen der Meteorologie.* [Abstracted by *Meteorological Abstracts.*]
Annu. Rep. Sci. Works Fac. Sci. Osaka Univ.	*Annual Report of Scientific Works from the Faculty of Science, Osaka University.* Osaka University, Nakanoshima, Osaka, Japan. [Replaces *Science Papers from Osaka University*, which ceased publication at the end of Volume 36.]
Applic. and Industr.	*Applications and Industry.* Nos. 1–4 of this publication are issued in collected form in *Transactions of the American Institute of Electrical Engineers*, Vol. 71, Pt II, without change in pagination.
Arch. Eisenhüttenw.	*Archiv für Eisenhüttenwesen.* [Article reprinted in *Entwicklungsber. Siemens & Halske.*]
Arch. Meteorol. Geophys. und Bioklimatol.	*Archiv für Meteorologie, Geophysik und Bioklimatologie, Serie A.* [Abstracted by *Meteorological Abstracts.*]
Austral. J. Phys.	*Australian Journal of Physics.* Formerly *Australian Journal of Scientific Research, Series A* [*Austral. J. sci. Res. A*]. Address unchanged.
Brit. Kinematogr.	*British Kinematography.* [Abstracted by *Photographic Abstracts.*]
Bull. Acad. Polon. Sci.	*Bulletin de l'Académie Polonaise des Sciences. Classe 3: Mathématique, Astronomie, Physique, Chimie, Géologie et Géographie. Classe 4: Mécanique appliquée, Electrotechnique, Science des Mines, Métallurgie, Construction mécanique, Génie civil, Architecture.* Polska Akademia Nauk, Ul. Nowy Świat 72, Warsaw.
Bull. Amer. Ceram. Soc.	*Bulletin of the American Ceramic Society.* [Abstracted by Metropolitan Vickers Electrical Co.]
Bull. Chem. Soc. Japan	*Bulletin of the Chemical Society of Japan.* [Abstracted by *British Abstracts.*]
Bull. Elect. Engng Dep. Univ. Tokyo	*Bulletin of the Electrical Engineering Department, University of Tokyo.* Electrical Engineering Department, Faculty of Engineering, University of Tokyo.
Bull. Electrotech. Lab. [Tokyo]	*Bulletin of the Electrotechnical Laboratory.* Agency of Industrial Science and Technology, Ministry of International Trade and Industry, 2-chome, Nagato-cho, Chiyoda-ku, Tokyo.
Bull. Inst. Nuclear Sci. "Boris Kidrich"	*Bulletin of the Institute of Nuclear Sciences "Boris Kidrich."* P.O. Box 522, Belgrade. Formerly *Recueil de Travaux de l'Institut de Recherches sur la Structure de la Matière* (*Recueil Trav. Inst. Rech. Struct. Matière* [*Belgrade*]).
Bull. Nagoya Inst. Technol.	*Bulletin of the Nagoya Institute of Technology.* Nagoya, Japan.
Bull. sci. Cons. Acad. Yougoslavie	*Bulletin scientifique. Conseil des Académies de la RPF de Yougoslavie.* B.P. 199, Ljubljana, Yugoslavia.
Commun. and Electronics	*Communications and Electronics.* Nos. 1–4 of this publication are issued in collected form in *Transactions of the American Institute of Electrical Engineers*, Vol. 71, Pt I, without change in pagination.
Doshisha Engng Rev.	*Doshisha Engineering Review.* Doshisha Kogaku-kai [Doshisha University Engineering Association], Karasuma Imadegawa, Kyoto.
Doshisha Engng Rev. Special Pap.	*Doshisha Engineering Review Special Papers.* Doshisha Kogaku-kai [Doshisha University Engineering Association], Karasuma Imadegawa, Kyoto.
Elect. Commun. Lab. Tech. J. [Tokyo]	*Electrical Communication Laboratory Technical Journal.* Electrical Communication Laboratory, Ministry of Telecommunications, 1551 Kichijoji, Musashino-shi, Tokyo.
Electro-Magazine	*Electro-Magazine.* 40 Rue du Colisée, Paris (8e).
Electrotech. Pap. [Tokyo]	*Electrotechnical Papers.* Institute of Electrical Engineers of Japan, No. 1, 1-chome, Yuraku-cho, Chiyoda-ku, Tokyo.
Elektrowärme-Tech.	*Elektrowärme-Technik.* Elektro-Verlag W. Sachon K.G., 13b Mindelheim, Schloss Mindelburg, Germany.
Energetik	*Energetik.* Vetoshny per., 2, Moscow 12.
Energetyka	*Energetyka.* Ul. Stawowa 19, Katowice, Poland.
Euclides [Madrid]	*Euclides* [*Madrid*]. [Abstracted by *Meteorological Abstracts.*]
FeinwTech.	*Feinwerktechnik.* [Article reprinted in *Entwicklungsber. Siemens & Halske.*]
Indian J. theor. Phys.	*Indian Journal of Theoretical Physics.* Editorial Secretary, 18 Ramkanto Bose Street, Calcutta 3, West Bengal, India.
Instn Engrs Australia Proc. Engng Conf. Melbourne	*Proceedings of the Engineering Conference, Melbourne*, 1953. Institution of Engineers, Australia. Science House, Gloucester and Essex Streets, Sydney.

Izv. Akad. Nauk SSSR Ser. Geogr. Geofiz.	*Izvestiya Akademii Nauk, SSSR, Seriya Geograficheskaya Geofizicheskaya.* [Abstracted by *Meteorological Abstracts.*]
J. aeronaut. Sci.	*Journal of Aeronautical Sciences.* [Abstracted by *Applied Mechanics Reviews.*]
J. Amer. Ceram. Soc.	*Journal of the American Ceramic Society.* [Abstracted by Metropolitan-Vickers Electrical Co.]
J. Amer. Rocket Soc.	*Journal of the American Rocket Society.* 29 West 39th Street, New York 18.
J. appl. Phys. Japan	*Journal of Applied Physics, Japan.* Faculty of Applied Physics, Department of Engineering, Tokyo University, 1 Motofujicho, Bunkyo-ku, Tokyo.
J. Audio Engng Soc.	*Journal of the Audio Engineering Society.* P.O. Box 12, Old Chelsea Station, New York 11, N.Y.
J. Belge Radiol.	*Journal Belge de Radiologie.* [Abstracted by *Nuclear Science Abstracts.*]
JENER Publ.	*JENER Publications.* Joint Establishment for Nuclear Energy Research, Kjeller per Lillestrøm, Norway.
JENER Rep.	*JENER Report.* Joint Establishment for Nuclear Energy Research, Kjeller per Lillestrøm, Norway.
J. Fac. Engng Univ. Tokyo	*Journal of the Faculty of Engineering, University of Tokyo.* Bunkyo-ku, Tokyo.
J. Geomagn. Geoelect.	*Journal of Geomagnetism and Geoelectricity.* Society of Terrestrial Magnetism and Electricity of Japan. Geophysical Institute, Kyoto University, Kyoto.
J. Inst. Polytech. Osaka City Univ.	*Journal of the Institute of Polytechnics, Osaka City University: Series B, Physics.* Osaka.
J. Japan Soc. Appl. Mech.	*Journal of the Japan Society of Applied Mechanics.* Box No. 24, Shibuya Post Office, Tokyo.
J. Madras Inst. Technol.	*Journal of the Madras Institute of Technology.* Chromepet, Madras State, India.
J. Mech. Phys. Solids	*Journal of the Mechanics and Physics of Solids.* Pergamon Press, 242 Marylebone Road, London, N.W.1.
J. Meteorol.	*Journal of Meteorology.* American Meteorological Society. 3 Joy Street, Boston 8, Massachusetts.
J. Meteorol. Soc. Japan	*Journal of the Meteorological Society of Japan.* [Abstracted by *Meteorological Abstracts.*]
J. photogr. Sci.	*Journal of photographic Science.* Formerly *Photographic Journal, Section B* [*Photogr. J. B*]. Address unchanged.
J. Polymer Sci.	*Journal of Polymer Science.* [Abstracted by Metropolitan-Vickers Electrical Co.]
J. S. African Chem. Inst.	*Journal of the South African Chemical Institute.* [Abstracted by *Nuclear Science Abstracts.*]
J. sci. Météorol.	*Journal Scientifique de la Météorologie.* [Abstracted by *Meteorological Abstracts.*]
J. Soc. Licensed Aircraft Engrs	*Journal of the Society of Licensed Aircraft Engineers.* 6th Floor, Effingham House, Arundel Street, Strand, London, W.C.2.
Kolloid Z.	*Kolloid Zeitschrift.* [Abstracted by *British Abstracts.*]
Lichttechnik	*Lichttechnik.* Helios-Verlag, Eichborndamm 141–167, Berlin-Borsigwalde.
Marconi	*Marconi.* Via Hermada 2, Genova-Sestri.
Mater. and Methods	*Materials and Methods.* [Abstracted by Metropolitan-Vickers Electrical Co.]
Matronics	*Matronics.* Philips Gloeilampenfabrieken, Eindhoven.
Mem. Coll. Sci. Univ. Kyoto	*Memoirs of the College of Science. University of Kyoto. Series A: Mathematics, Physics, Chemistry.* Kitashirakawa, Sakyo-ku, Kyoto.
Mem. Fac. Engng Nagoya Univ.	*Memoirs of the Faculty of Engineering of Nagoya University.* Faculty of Engineering, University of Nagoya, Mutsuno-cho, Atsuta-ku, Nagoya, Japan.
Mem. Fac. Technol. Tokyo Metrop. Univ.	*Memoirs of the Faculty of Technology. Tokyo Metropolitan University.* Tokyo.
Mem. Ord. Engen.	*Memorias da Ordem dos Engenheiros.* Av. de Antonia Augusto de Aguiar 1, Lisbon-N.
Mém. Soc. Phys. Hist. Nat. Genève	*Mémoires de la Société de Physique et d'Histoire Naturelle de Genève.* Bibliothèque Publique des Bastions, Geneva.
Mem. Soc. Vaudoise Sci. Nat.	*Memoires de la Société Vaudoise des Sciences Naturelles.* Palais de Rumine, Lausanne.
Metall	*Metall.* [Article reprinted in *Entwicklungsber. Siemens & Halske.*]
Metalloberfläche	*Metalloberfläche.* [Article reprinted in *Entwicklungsber. Siemens & Halske.*]
Mitt. Max Planck-Inst. Phys. Stratosphäre	*Mitteilungen aus dem Max Planck-Institut für Physik der Stratosphäre.* Weissenau bei Ravensburg. [Mainly extensions of articles published in shorter form in other journals.]
MittBlatt math. Statist.	*Mitteilungsblatt für mathematische Statistik.* [Article reprinted in *Entwicklungsber. Siemens & Halske.*]
Mod. Transport	*Modern Transport.* [Abstracted by Metropolitan-Vickers Electrical Co.]
Nature [*Paris*].	*La Nature.* [Abstracted by *Rubber Abstracts.*]
Natuurwet. T.	*Natuurwetenschappelijk Tijdschrift.* [Abstracted by *British Abstracts.*]
Nimbus	*Nimbus.* Sociedad Meteorológica de Bolivia. Presbitero Medina No. 350, La Paz.

Org. Météorol. Internat. Publ.	*Organisation Météorologique Internationale. Publication.* World Meteorological Organization [Organisation Météorologique Mondiale], *formerly* International Meteorological Organization. 1 Avenue de la Paix, Geneva.
Paper Industr.	*Paper Industry.* [Abstracted by Metropolitan-Vickers Electrical Co.]
Prod. Engng	*Product Engineering.* [Abstracted by Metropolitan-Vickers Electrical Co.]
Publ. Inst. Roy. Météorol. Belgique	*Publications. Institut Royal Météorologique de Belgique.* 3 Avenue Circulaire, Uccle 3 (nr. Brussels), Belgium.
Publ. Nat. Res. Coun. Nat. Acad. Sci. U.S.A.	*Publications of the National Research Council of the National Academy of Sciences of the United States of America.* 2101 Constitution Avenue, Washington 25, D.C.
Pwr Apparatus Syst.	*Power Apparatus and Systems.* Nos. 1–3 of this publication are issued in collected form in *Transactions of the American Institute of Electrical Engineers*, Vol. 71, Pt III, without change in pagination.
Recueil Trav. Inst. Rech. Struct. Matière [Belgrade]	*Recueil de Travaux de l'Institut de Recherches sur la Structure de la Matière.* Laboratoire de Physique, Belgrade.
Rep. Ionosphere Res. Japan	*Report of Ionosphere Research in Japan.* Maruzen Publishing Company, Tokyo.
Researches Electrotech. Lab. [Tokyo]	*Researches of the Electrotechnical Laboratory.* Agency of Industrial Science and Technology, Ministry of International Trade and Industry, 2-chome, Nagato-cho, Chiyoda-ku, Tokyo.
Rev. Fac. Engen., Univ. Porto	*Revista da Faculdade de Engenharia, Universidade de Porto.* Oporto.
Rev. gén. Caoutchouc	*Revue Générale du Caoutchouc.* [Abstracted by *Rubber Abstracts.*]
Rev. Ingen. [Montevideo]	*Revista de Ingeniería.* Asociación de Ingenieros del Uruguay. Agraciada 1464, Piso 14, Montevideo.
Rev. S-W	*Revue S-W.* Le Matériel Electrique S-W, 32 Cours Albert Ier, Paris (8e).
Rev. Un. Mat. Argentina	*Revista de la Union Matemática Argentina.* Instituto de Matemática, Perú 221, Buenos Aires.
Röntgenblätt.	*Röntgenblätter.* [Abstracted by *Photographic Abstracts.*]
Sci. Industr. photogr.	*Sciences et Industrie Photographiques.* 165 Rue de Sèvres; 3 and 5 Boulevard Pasteur, Paris (15e).
Sci. Pap. Coll. Gen. Educ. Univ. Tokyo	*Scientific Papers of the College of General Education. University of Tokyo.* College of General Education (Kyoyo-Gakubu), University of Tokyo, Komaba, Meguro-ku, Tokyo.
Sci. Rep. Saitama Univ.	*Science Reports of the Saitama University. Series A: Mathematics, Physics and Chemistry.* Saitama University, Urawa, Japan.
Sheet Metal Industr.	*Sheet Metal Industries.* [Abstracted by Metropolitan-Vickers Electrical Co.]
Stahl u. Eisen	*Stahl und Eisen.* [Abstracted by *Applied Mechanics Reviews.*]
Strahlentherapie	*Strahlentherapie.* [Abstracted by *Nuclear Science Abstracts.*]
Svensk kem. T.	*Svensk Kemisk Tidskrift.* [Abstracted by *British Abstracts.*]
Tele-Tech	*Tele-Tech.* 480 Lexington Avenue, New York 17, N.Y.
Timarit Verkfræd. Islands	*Timarit Verkfræðingafélags Islands.* P.O. Box 645, Reykjavik, Iceland.
Trans Inst. Metal Finishing	*Transactions of the Institute of Metal Finishing.* Continuation of the *Journal of the Electrodepositors' Technical Society* [*J. Electrodepos. Tech. Soc.*]. Address unchanged.
Trans Inst. Radio Engrs Prof. Group	*Transactions of the Institute of Radio Engineers Professional Groups.* [Papers published by individual Professional Groups of the Institute.] 1 East 79th Street, New York 21.
U.S. National Sci. Found.	*U.S. National Science Foundation.* Translations of Russian articles; see note on p. xvi.
Vestnik Akad. Nauk SSSR	*Vestnik Akademii Nauk SSSR.* Cherkasski per 2, Moscow.
Weld. Res.	*Welding Research.* [Abstracted by Metropolitan-Vickers Electrical Co.]
Wire & Wire Prod.	*Wire and Wire Products.* [Abstracted by Metropolitan-Vickers Electrical Co.]
Wiss. Z. Tech. Hochsch. Dresden	*Wissenschaftliche Zeitschrift der Technischen Hochschule Dresden.* Mommsenstrasse 13, I, Dresden, A.27.
Z. Elektrochem.	*Zeitschrift für Elektrochemie. Berichte der Bunsengesellschaft für physikalische Chemie.* Verlag Chemie G.m.b.H., Weinheim/Bergstrasse.
Z. Metallk.	*Zeitschrift für Metallkunde.* [Article reprinted in *Entwicklungsber. Siemens & Halske.*]

Changes of Title

Atomics [London]	*Atomics and Atomic Technology.* Stratford House, 9 Eden Street, London, N.W.1. Extension of title commencing *June*, 1953.
Atti Fond. Ronchi	*Atti della Fondazione "Giorgio Ronchi" e Contributi dell'Istituto Nazionale di Ottica.* Title extended from *Atti della Fondazione "Giorgio Ronchi."*
Austral. J. sci. Res.	*Australian Journal of Scientific Research, Series A: Physical Sciences.* Divided into *Australian Journal of Physics* [*Austral. J. Phys.*] and *Australian Journal of Chemistry* commencing first issue of 1953.
Izv. Akad. Nauk SSSR Ser. Geogr. Geofiz.	*Izvestiya Akademii Nauk, SSSR, Seriya Geograficheskaya Geofizicheskaya.* Commencing No. 2, 1951, this journal is published in separate series, *Seriya Geograficheskaya* and *Seriya Geofizicheskaya.*

J. Electrodepos. Tech. Soc.	*Journal of the Electrodepositors' Technical Society.* Continued as *Transactions of the Institute of Metal Finishing* [*Trans Inst. Metal Finishing*].
Photogr. J. B	*Photographic Journal, Section B.* Title changed to *Journal of Photographic Science* [*J. photogr. Sci.*] commencing January, 1953.
Prom. Energ.	*Promyshlennaya Energetika.* Incorporated in *Energetik* after No. 5, 1953.
Recueil Trav. Inst. Rech. Struct. Matière [*Belgrade*]	*Recueil de Travaux de l'Institut de Recherches sur la Structure de la Matière.* Title changed to *Bulletin of the Institute of Nuclear Sciences "Boris Kidrich"* [*Bull. Inst. Nuclear Sci. "Boris Kidrich"*] commencing Volume 3, 1953.
Strowger J.	*Strowger Journal.* Title changed to *A.T.E. Journal* [*A.T.E. J.*] commencing January, 1953.

Changes of Address

Acta phys. Polon.	*Acta Physica Polonica.* Polska Akademia Nauk, Ul. Nowy Świat 72, Warsaw.
Atomics [*London*]	*Atomics and Atomic Technology.* Stratford House, 9 Eden Street, London, N.W.1. Correction to address published in the List of Journals (*January*, 1953).
Brit. Stand.	*British Standards.* British Standards Institution, 2 Park Street, London, W.1.
Czech. J. Phys.	*Czechoslovak Journal of Physics.* Czechoslovak Academy of Sciences, Národní tř.5, Prague I.
Endeavour	*Endeavour.* North Block, Thames House, Millbank, London, S.W.1.
Geophysics	*Geophysics.* 624 South Cheyenne, Tulsa 3, Oklahoma.
J. Glaciol.	*Journal of Glaciology.* British Glaciological Society. C/o Scott Polar Research Institute, Lensfield Road, Cambridge, England.
J. Soc. Glass Technol.	*Journal of the Society of Glass Technology.* "Thornton," Hallam Gate Road, Sheffield 10.
Jodrell Bank Ann.	*Jodrell Bank Annals. Jodrell Bank Experimental Station*, Lr. Withington, Macclesfield, Cheshire.
Lab. Pract.	*Laboratory Practice.* United Trade Press, 9 Gough Square, Fleet Street, London, E.C.4.
Research	*Research.* 88 Kingsway, London, W.C.2.

Translations of Foreign Articles (including Russian)

An index of the location (in Great Britain and the Commonwealth) of existing translations of articles in foreign languages is maintained by Aslib, 4 Palace Gate, London, W.8, to whom enquiries should be directed. The titles of translations deposited at the Science Museum Library, South Kensington, London, S.W.7, are published in the Library's *Weekly List of Accessions to the Library.* The Department of Scientific and Industrial Research, Technical Information and Documents Unit, Cunard House, 15 Regent Street, London, S.W.1, has arrangements for commissioning translations from certain Russian journals on a co-operative basis; details are given in their monthly "*Translated Contents Lists of Russian Periodicals.*"

A United States national centre for holding and photoduplicating translations has been established by the National Science Foundation in the Science Division, Library of Congress, Washington 25, D.C.; monthly lists of titles are issued by the Library of Congress. In addition, the National Science Foundation is publishing translations of selected articles from Russian journals. These can be purchased from the Office of Technical Services, Department of Commerce, Washington 25, D.C.; their titles are included in the Library of Congress lists.